San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

FEB 2 4 2015

Mr. Robert Beebout
Aera Energy LLC
PO Box 11164
Bakersfield, CA 93389

Re: Proposed Authority to Construct/Certificate of Conformity (Minor Mod)
District Facility # S-1135
Project # 1143934, 1143938

Dear Mr. Beebout:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The project authorizes connection of (10) ten vessels to vapor control systems S-1135-129 and '-149.

After addressing all comments made during the 45-day EPA comment period, the District intends to issue the Authority to Construct with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Leonard Scandura, Permit Services Manager, at (661) 392-5500.

Thank you for your cooperation in this matter.

Sincerely,

Arnaud Marjollet
Director of Permit Services

Enclosures

cc: Gerardo C. Rios, EPA (w/enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

Authority to Construct
Application Review

Facility Name:	Aera Energy LLC	Date:	February 23, 2015
Mailing Address:	PO Box 11164 Bakersfield, CA 93389	Engineer: Lead Engineer:	Richard Edgehill Allan Phillips
Contact Person:	Robert Beebout		
Telephone:	(661) 665-3212		
Application #(s):	S-1135-129-28, '-149-22, '-346-0 through '-351-0, '-353-0 through '-356-0		
Project #:	1143934 (ATC), 1143938 (In House PTO)		
Deemed Complete:	November 5, 2014		

I. Proposal

Aera Energy LLC (Aera) is applying for Authorities to Construct (ATCs) permit to list eleven (10) existing process vessels (FWKOs, flow splitter, gas buster, and un-fired heater treaters) as being connected to TEOR vapor control system (VCS) S-1135-129 and/or tank VCS S-1135-149. The vessels ('-346 through '-351-0, '-353 through '-356) are existing and will be issued permits to operate, as they did not require a permit at the time of installation and lost permit exemption. More details regarding this are provided in the Compliance Section. Both the PTO project (1143938) and the ATC project (1143934) are covered in this evaluation.

Note that, per FYI-111, modifying the tank (TEOR operation) vapor control system to list tanks as connected to the system(s) is not a NSR modification. Therefore, BACT, offsets, and public notice requirements do not need to be addressed for S-1135-129 and '-149. Rule 2201 is not applicable.

There are no outstanding ATCs for S-1135-129 and '-149. Current PTOs S-1135-129-27 and '-149-21 are included in **Attachment I**.

Aera's facility S-1135 has a Title V Permit. This modification can be classified as a Title V Minor Modification pursuant to Rule 2520, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Aera must apply to administratively amend their Title V permit.

II. Applicable Rules

Rule 2020	Exemptions (12/18/14)
Rule 2201	New and Modified Source Review Rule (4/21/11)- **not applicable** - as stated above
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 2410	Prevention of Significant Deterioration (Adopted 6/16/11, effective 11/26/12) – **not applicable** – project is not a NSR modification and there is no change in emissions

Rule 4001 New Source Performance Standards,
Subpart Kb (Amended 4/14/99) - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)

Subpart OOOO (Adopted 8/16/2012) - Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution.

Rule 4101 Visible Emissions (04/20/05)
Rule 4102 Nuisance (12/17/92)
Rule 4401 Steam Enhanced Crude Oil Production Wells (06/16/11)
Rule 4623 Storage of Organic Liquids (05/19/05)
CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

TEOR operation S-1135-129, tank S-1135-149, and pressure vessels S-1135-346 through '-351 and '-353 through '-356 are located at the Anderson-Goodwin lease in Aera's HOWSS, NW Section 21, T31S, R22E.

The equipment is not located within 1,000 feet of the outer boundary of any K-12 school. Therefore, pursuant to CH&SC 42301.6, California Health and Safety Code (School Notice), public notification is not required.

IV. Process Description

S-1135-129

The permit authorizes 425 steam enhanced wells under vapor control shared with the existing vessels S-1135-346 through '-356 with vapor piping connected to injection wells.

S-1135-149

The tank receives production prior to custody transfer.

S-1135-346 through '-351, '-353 through '-356

VOC emissions from the existing vessels are controlled by shared vapor control systems S-1135-129 and '-149. The '-149 vapor control system collects and routes uncondensed vapors to TEOR operation S-1135-129 as stated in the following condition:

All collected vapors shall be compressed to the Andersen-Goodwin Lease TEOR skid S-1135-129 for disposal. [District Rule 2201] Y

The following additional process information was provided by the applicant in an email dated 2-6-15:

"--- the vessels are piped such that their discharge waste gas can be directed into either the tank vapor recovery (TVR) system (S-1135-149) or the casing vapor recovery (CVR) system (S-1135-129). There are manual valves on the main waste gas line for (from) the vessels that can be opened or closed, and locked into the desired position, depending on the desired destination for the waste gas. Currently, the valves are positioned to discharge the gas directly into the CVR system at Skid #4 (S-1135-129)."

V. Equipment Listing

Pre-Project Equipment Description:

S-1135-129-27: THERMALLY ENHANCED OIL RECOVERY OPERATION AUTHORIZED FOR 425 STEAM ENHANCED WELLS INCLUDING BALANCED WELL VENT CONTROL SYSTEM, VAPOR PIPING TO INJECTION WELLS (ANDERSON-GOODWIN LEASE)

S-1135-149-21: 3000 BBL CRUDE OIL LACT TANK ID# AG-01, WITH VAPOR CONTROL SYSTEM SHARED WITH TANKS S-1135-150, '151, '270, '301, '323, AND '339 (ANDERSON/GOODWIN LEASE)

Proposed Modification:

S-1135-129-28: MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY OPERATION AUTHORIZED FOR 425 STEAM ENHANCED WELLS INCLUDING BALANCED WELL VENT CONTROL SYSTEM, VAPOR PIPING TO INJECTION WELLS (ANDERSON-GOODWIN LEASE): LIST EXISTING VESSELS S-1135-346 THROUGH '-351 AND '-353 THROUGH '-356 AS CONNECTED TO VAPOR CONTROL SYSTEM

S-1135-149-22: MODIFICATION OF 3000 BBL CRUDE OIL LACT TANK ID# AG-01, WITH VAPOR CONTROL SYSTEM SHARED WITH TANKS S-1135-150, '151, '270, '301, '323, AND '339 (ANDERSON/GOODWIN LEASE): LIST EXISTING VESSELS S-1135-346 THROUGH '-351 AND '-353 THROUGH '-356 AS CONNECTED TO VAPOR CONTROL SYSTEM

Post Project Equipment Description:

S-1135-129-28: THERMALLY ENHANCED OIL RECOVERY OPERATION AUTHORIZED FOR 425 STEAM ENHANCED WELLS INCLUDING BALANCED WELL VENT CONTROL SYSTEM, VAPOR PIPING TO INJECTION WELLS AND CONNECTED TO VESSELS LIST EXISTING VESSELS S-1135-346 THROUGH '-351 AND '-353 THROUGH '-356 AS CONNECTED TO VAPOR CONTROL SYSTEM (ANDERSON-GOODWIN LEASE)

S-1135-149-22: 3000 BBL CRUDE OIL LACT TANK ID# AG-01, WITH VAPOR CONTROL SYSTEM SHARED WITH TANKS S-1135-150, '151, '270, '301, '323, '339, AND VESSELS LIST EXISTING VESSELS S-1135-346 THROUGH '-351 AND '-353 THROUGH '-356 AS CONNECTED TO VAPOR CONTROL SYSTEM

S-1135-346-0: 1,200 BBL FREE WATER KNOCK OUT (FWKO) #1 CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

S-1135-347-0: 1000 BBL FLOW SPLITTER VESSEL CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

S-1135-348-0: 700 BBL FLOW GAS BUSTER VESSEL CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

S-1135-349-0: 1000 BBL TREATER VESSEL #1 CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

S-1135-350-0: 1000 BBL TREATER VESSEL #2 CONNECTED TO VAPOR RECOVERY SYSTEM CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

S-1135-351-0: 1000 BBL TREATER VESSEL #3 CONNECTED TO VAPOR RECOVERY SYSTEM CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

S-1135-353-0: 1000 BBL TREATER VESSEL #5 CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

S-1135-354-0: 1,000 BBL TREATER VESSEL #6 CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

S-1135-355-0: 1,000 BBL TREATER VESSEL #7 CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

S-1135-356-0: 1,000 BBL TREATER VESSEL #8 CONNECTED TO THE VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

VI. Emission Control Technology Evaluation

The vapor control efficiencies of the S-1135-129 and '-149 vapor control systems are required by permit condition to be at least 99%.

VII. General Calculations

A. Assumptions

- Facility will operate 24 hours per day, 7 days per week, and 52 weeks per year.
- As stated in the Proposal Section above, S-1135-129 and '-149 are not being modified (NSR) and therefore calculations are not required. PE2 will be restated for inclusion in the PAS emissions profile.
- Emissions from S-1135-129 and '-149 are not changed with connection of vessels S-1135-346 through '-351-0 and '-353 through '-356.
- S-1135-346 through '-351, '-353 through '-356 piping components process vapors with less than 20% by weight VOCs which, according to District Policy SSP-2015, are not included in emissions calculations. A laboratory analysis is included in **Attachment II**.

B. Emission Factors

S-1135-346-0 through '-351, '-353 through '-356-0 process vapors with less than 10% by weight VOCs and therefore emissions are negligible. The estimated fugitive emissions component counts for each vessel are included in **Attachment III**.

C. Calculations

Post Project Potential to Emit, (PE_2)

Permit Unit	VOC - Daily PE2 (lb./day)	VOC - Annual PE2 (lb/Year)
S-1135-129	143.0 (DEL)	52,195
S-1135-149 (tank and VCS)	10.0 (DEL)	3,000
S-1135-346 through '-351, '-353 through '-356 (each)	0.6	219

Emissions profiles are included in **Attachment iV**.

VIII. Compliance

Rule 2020 Exemptions

Vessels '-346 through '-351 and '-353 through '-356 lost exemption from permit with approval of District Policy SSP-2015 "Quantifying Fugitive VOC Emissions from Petroleum & SOCMI Facilities" in 2005 which states the following:

"In TEOR operations where the liquid flow line enters a vessel and the vessel discharges gas into a vapor control system (as opposed to a gas gathering system), then the vessel, (if $\leq$ 100 bbl capacity) and components are associated with the vapor control system permit. If the vessel has a capacity > 100 bbl, it requires a separate permit."

As the vessels are existing and are greater than 100 bbl in capacity, therefore they qualify for exemption from Rule 2201 pursuant to Rule 2020 Section 9.0.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit.

In accordance with Rule 2520, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;

4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
   a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
   b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

As discussed above, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may construct/operate under the ATC upon submittal of the Title V administrative amendment application. The Title V Compliance Certification form is included in **Attachment V**.

Rule 4001 New Source Performance Standards

40 CFR Part 60, Subpart A, defines the meaning of modification to which the the standards are applicable.

"Modification means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted."

The project results in no increase in emissions (equipment is existing) and therefore is not a modification.

Rule 4101 - Visible Emissions

Rule 4101 states that no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity.

As long as the equipment is properly maintained and operated, compliance with visible emissions limits is expected under normal operating conditions.

Rule 4102 - Public Nuisance

Rule 4102 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are

not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

CH&SC 41700 - California Health and Safety Code

District Policy APR 1905 – *Risk Management Policy for Permitting New and Modified Sources* specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

There is no increase in emissions and therefore a HRA is not required.

Rule 4401 Steam Enhanced Crude Oil Production Wells

TEOR operation S-1135-126 is currently operating in compliance with the rule and the project is not expected to affect compliance status.

Continued compliance is expected.

Rule 4623, *Storage of Organic Liquids*

This rule applies to any tank with a capacity of 1,100 gallons or greater in which any organic liquid is placed, held, or stored.

S-1135-149

The tank is currently operating in compliance with the rule and the project is not expected to affect compliance status. Continued compliance is expected.

S-1135-346 through '-351, '-353 through '-356

According to Section 4.4, tanks exclusively receiving and or storing organic liquids with a TVP less than 0.5 psia are exempt from this Rule except for complying with Sections 6.2, 6.3.6, 6.4 and 7.2. Therefore, the following conditions shall be placed on the ATC:

{2480} This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rules 2201 and 4623] N

{Modified 2910} Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank upon initial start-up, at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 2201 and 4623] N

The permittee shall conduct API gravity testing upon initial start-up. [District Rules 4623] N

{Modified 2911} The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. [District Rule 4623]

{Modified 2483} For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "Test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rules 2201 and 4623] N

{Modified 2482} The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rules 2201 and 4623] N

{Modified 2912} Permittee shall submit the records of TVP and API gravity testing to the APCO within 45 days after the date of testing. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rules 2201 and 4623] N

Compliance is expected.

CH&SC 42301.6 California Health & Safety Code (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;

- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) is exempt from Best Available Control Technology (BACT) requirements.

Furthermore, the District has determined that potential emission increases would have a less than significant health impact on sensitive receptors.

Issuance of permits for emissions units not subject to BACT requirements and with health impact less than significant is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Issue ATCs S-1135-129-28 and '-149-22 and In House PTOs S-1135-346 through '-351, '-353 through '-356 subject to the permit conditions on the attached draft ATCs and PTOs, respectively, in **Attachment VI.**

X. Billing Information

Permit Number	Fee Schedule	Fee Description	Annual Fee
S-135-129	3020-09A	425 wells	$3969.50
'-149	3020-05-E	126,000 gallons	$246
'-346	3020-05D	50,400 gallons	$185.00
'-348	3020-05C	29,400 gallons	$135.00
'-347, S-1135-346 through '-351, '-353 through '-356	3020-05C	42,000 gallons	$135.00

ATTACHMENT I: Current PTOs S-1135-129-27, '-149-21
ATTACHMENT II: Gas Analysis
ATTACHMENT III: Fugitive Emissions
ATTACHMENT IV: Emissions Profiles
ATTACHMENT V: Title V Compliance Certification Form
ATTACHMENT VI: Draft ATC(s)

ATTACHMENT I
Current PTOs S-1135-129-27, '-149-21

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-129-27 **EXPIRATION DATE:** 05/31/2016

SECTION: NW21 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:
THERMALLY ENHANCED OIL RECOVERY OPERATION AUTHORIZED FOR 425 STEAM ENHANCED WELLS INCLUDING BALANCED WELL VENT CONTROL SYSTEM, VAPOR PIPING TO INJECTION WELLS (ANDERSON-GOODWIN LEASE)

PERMIT UNIT REQUIREMENTS

1. The crude oil production from wells associated with this permit unit shall not lie within 1000 feet of an air injection well used for in-situ combustion. [District Rule 4407, 2.0, 3.4, and 3.5] Federally Enforceable Through Title V Permit
2. All required source testing shall conform to the compliance testing procedures described in District Rule 1081(as amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit
3. Volatile organic compound (VOC) emissions from the entire system (including fugitive emissions from components handling vapor and condensate) shall not exceed 143.0 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Compliance with permit conditions in the Title V permit shall be deemed compliance with the Kern County Rule 108.1. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
5. Compliance with permit conditions in the Title V permit shall be deemed compliance with SJVUAPCD Rule 4401 (Amended January 15, 1998), excluding sections 5.1 and 5.2 for control systems which have been waived from complying with the requirement of section 6.2.1. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
6. The crude oil production wells associated with this unit do not have production enhanced by in-situ combustion. Therefore, the requirements of SJVUAPCD Rule 4407 (Adopted May 19, 1994) do not apply to this permit unit. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
7. TEOR gas injected into formation shall only be performed using Department of Oil, Gas & Geothermal (DOGGR) approved injection wells. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Permit holder shall cease injecting vapors and notify the District immediately if DOGGR injection approval is revoked, denied, terminated, surrendered or altered to disallow injection. This condition does not grant the permittee relief from any permit condition or other requirement of the Clean Air Act. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Permit holder shall maintain with the permit a listing (updated annually within 60 days of permit anniversary) of all steam enhanced wells connected to the casing vent control system. [District Rule 1070] Federally Enforceable Through Title V Permit
10. TEOR vapors shall be injected to the formation or shall be contained within balanced casing vent collection system, or well casing vents shall be closed and produced fluids handled only in controlled production equipment. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

11. Collected liquids shall be handled, stored, and disposed of in a manner preventing air contaminant emissions. [District NSR Rule] Federally Enforceable Through Title V Permit

12. The fugitive emissions component inspection and reinspection requirements of Section 5.4.1 through Section 5.4.7 of this rule shall not apply to components exclusively handling gas/vapor or liquid with a VOC content of ten percent by weight or less (£10 wt.%), as determined by the test methods in Section 6.3.4. [District Rule 4401] Federally Enforceable Through Title V Permit

13. During the time any steam-enhanced crude oil production well is undergoing service or repair while the well is not producing, it shall be exempt from the requirements of District Rule 4401. [District Rule 4401, 4.1] Federally Enforceable Through Title V Permit

14. The uncontrolled VOC emissions from any well vent shall be reduced by at least 99 percent by weight or, if several steam-enhanced crude oil production well vents are connected to a vapor collection and control system, total uncontrolled VOC emissions shall be reduced by at least 99 percent. [District Rule 4401, 5.1 and 5.2] Federally Enforceable Through Title V Permit

15. An operator shall not operate a steam-enhanced crude oil production well unless either of the following two conditions are met: 1) The steam-enhanced crude oil production well vent is closed and the front line production equipment downstream of the wells that carry produced fluids is connected to a VOC collection and control system as defined in Section 3.0 of this Rule or 2) the steam-enhanced crude oil production well vent is open and the well vent is connected to a VOC collection and control system as defined in Section 3.0. [District Rule 4401, 5.5.1 and 5.5.2] Federally Enforceable Through Title V Permit

16. There shall be no open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended lines. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401, 5.2.2.1] Federally Enforceable Through Title V Permit

17. There shall be no components with a major liquid leak as defined in Section 3.20.2 of Rule 4401. [District Rule 4401, 5.2.2.2] Federally Enforceable Through Title V Permit

18. There shall be no components with a gas leak of greater than 50,000 ppmv. [District Rule 4401, 5.2.2.3] Federally Enforceable Through Title V Permit

19. An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.4 of Rule 4401 demonstrates the existence of any combination of components with minor liquid leaks, minor gas leaks, or gas leaks greater than 10,000 ppmv up to 50,000 ppmv that totals more than number of leaks allowed by Table 2 of Rule 4401. [District Rule 4401, 5.2] Federally Enforceable Through Title V Permit

20. No leaking components (as defined in Section 5.2.2 of Rule 4401) may be used unless they have been identified with a tag for repair, are repaired, or awaiting re-inspection after being repaired within the applicable time frame specified in Section 5.5. [District Rule 4401, 5.7.1] Federally Enforceable Through Title V Permit

21. Each hatch shall be closed at all times except during attended repair, replacement, or maintenance operations, providing such activities are done as expeditiously as possible with minimal spillage or material and VOC emissions into the atmosphere. [District Rule 4401, 5.3.2] Federally Enforceable Through Title V Permit

22. The operator shall comply with the requirements of Section 6.7 if there is any change in the description of major components or critical components. [District Rule 4401, 5.3.3] Federally Enforceable Through Title V Permit

23. Unless otherwise specified in Section 5.4, an operator shall perform all component inspections and gas leak measurements pursuant to the requirements of Section 6.3.3. [District Rule 4401, 5.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

24. Except for pipes and unsafe-to-monitor components, an operator shall inspect all other components pursuant to the requirements of Section 6.3.3 at least once every year. [District Rule 4401, 5.4.1] Federally Enforceable Through Title V Permit

25. An operator shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of this Rule. [District Rule 4401, 5.4.2] Federally Enforceable Through Title V Permit

26. An operator shall inspect for leaks all accessible operating pumps, compressors, and PRDs in service as follows: 1) An operator shall audio-visually (by hearing and by sight) inspect for leaks all accessible operating pumps, compressors, and PRDs in service at least once each calendar week. 2) Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of this Rule. [District Rule 4401, 5.4.3] Federally Enforceable Through Title V Permit

27. The operator shall also perform the following inspections: 1) An operator shall initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release. An operator shall re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection. 2) An operator shall inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service, and 3) Except for PRDs subject to the requirements of Section 5.4.4.1 of this Rule, an operator shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401, 5.4.4] Federally Enforceable Through Title V Permit

28. Components located in unsafe areas shall be inspected and repaired at the next process unit turnaround and inaccessible components shall be inspected at least annually. [District Rule 4401, 5.4.7] Federally Enforceable Through Title V Permit

29. A District inspection in no way fulfills any of the mandatory inspection requirements that are placed upon operators and cannot be used or counted as an inspection required of an operator. [District Rule 4401, 5.4.8] Federally Enforceable Through Title V Permit

30. Upon detection of a leak, an operator shall affix a readily visible weatherproof tag to that leaking component that includes the following information: 1) The date and time of leak detection; 2) The date and time of the leak measurement; 3) For a gaseous leak, the leak concentration in ppmv; 4) For a liquid leak, whether it is a major or minor liquid leak; and 5) Whether the component is an essential component, and unsafe-to-monitor component, or a critical component. [District Rule 4401, 5.5.1] Federally Enforceable Through Title V Permit

31. The tag shall remain affixed to the leaky component until all the following requirements are met: 1) The component is repaired or replaced, 2) The component is re-inspected as set forth in Section 6.3, and 3) The component is found to be in compliance with this Rule. [District Rule 4401, 5.5.2] Federally Enforceable Through Title V Permit

32. An operator shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401, 5.5.3] Federally Enforceable Through Title V Permit

33. Except for leaking critical components or leaking essential components subject to the requirements of Section 5.9.7, if an operator has minimized a leak but the leak still exceeds the applicable leak limits as defined in Section 3.0, an operator shall comply with at least one of the following three requirements as soon as practicable but not later than the time period specified in Table 3: 1) Repair or replace the leaking component, 2) Vent the leaking component to a VOC collection and control system as defined in Section 3.0, or 3) Remove the leaking component from operation. [District Rule 4401, 5.5.4] Federally Enforceable Through Title V Permit

34. The repair period in calendar days shall not exceed 14 days for minor gas leaks, 5 days for major gas leaks less than or equal to 50,000 ppmv, 2 days for gas leak greater than 50,000 ppmv, 3 days for minor liquid leaks, 2 days for major liquid leaks. [District Rule 4401, 5.5.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

35. The leak rate measured after leak minimization has been performed shall be the leak rate used to determine the applicable repair period specified in Table 3. [District Rule 4401, 5.5.5] Federally Enforceable Through Title V Permit

36. The time of the initial leak detection shall be the start of the repair period specified in Table 3. [District Rule 4401, 5.5.6] Federally Enforceable Through Title V Permit

37. If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. [District Rule 4401, 5.5.7] Federally Enforceable Through Title V Permit

38. The operator of any steam-enhanced crude oil production well shall maintain records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401, 6.1.1] Federally Enforceable Through Title V Permit

39. An operator of any steam-enhanced crude oil production well shall keep source test records which demonstrate compliance with the control efficiency requirements of the VOC collection and control system as defined in Section 3.0 of Rule 4401. [District Rule 4401, 6.1.3] Federally Enforceable Through Title V Permit

40. The operator of any steam-enhanced crude oil production well shall maintain an inspection log pursuant to Section 6.4 of Rule 4401. [District Rule 4401, 6.1.4] Federally Enforceable Through Title V Permit

41. Records shall be maintained of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components, including a copy of current calibration gas certification from the vendor of said calibration gas cylinder, the date of calibration, concentration of calibration gas, instrument reading of calibration gas before adjustment, instrument reading of calibration gas after adjustment, calibration gas expiration date, and calibration gas cylinder pressure at the time of calibration [District Rule 4401, 6.1.5] Federally Enforceable Through Title V Permit

42. An operator shall maintain copies at the facility of the training records of the training program operated pursuant to Section 6.5 of Rule 4401. [District Rule 4401, 6.1.6] Federally Enforceable Through Title V Permit

43. An operator shall source test annually all vapor collection and control systems used to control emissions from steam-enhanced crude oil production well vents to determine the control efficiency of the device(s) used for destruction or removal of VOC. Compliance testing shall be performed annually by source testers certified by ARB. Testing shall be performed during June, July, August, or September of each year if the system's control efficiency is dependent upon ambient air temperature. [District Rule 44011, 6.2.1] Federally Enforceable Through Title V Permit

44. If approved by EPA, ARB, and the APCO, an operator need not comply with the annual testing requirement of Section 6.2.1 if all uncondensed VOC emissions collected by a vapor collection and control system are incinerated in fuel burning equipment, an internal combustion engine or in a smokeless flare. [District Rule 4401, 6.2.2] Federally Enforceable Through Title V Permit

45. An operator shall comply with the following requirements for each gauge tank, as defined in Section 3.17 of Rule 4401: Conduct an initial TVP testing of the produced fluid in each gauge tank not later than June 14, 2007. Thereafter, an operator shall conduct periodic TVP testing of each gauge tank at least once every 24 months during summer (July - September), and whenever there is a change in the source or type of produced fluid in the gauge tank. The TVP testing shall be conducted at the actual storage temperature of the produced fluid in the gauge tank using the applicable TVP test method specified in Section 6.4 of Rule 4623 (Storage of Organic Liquids). The operator shall submit the TVP testing results to the APCO as specified in Section 6.1.9 of Rule 4401. [District Rule 4401, 6.2.3] Federally Enforceable Through Title V Permit

46. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4401, 6.3.1] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

47. VOC content shall be analyzed by using the latest revision of ASTM Method E168, E169, or E260 as applicable. Analysis of halogenated exempt compounds shall be performed by using ARB Method 432. [District Rule 4401, 6.3.2] Federally Enforceable Through Title V Permit

48. Leak inspection, other than audio-visual, and measurements of gaseous leak concentrations shall be conducted according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instruction, as appropriate, not more than 30 days prior to its use. The operator shall record the calibration date of the instrument. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one (1) centimeter or less from the surface of the component interface. [District Rule 4401, 6.3.3] Federally Enforceable Through Title V Permit

49. The VOC content by weight percent (wt.%) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 or the latest revision of ASTM Method E168, E169 or E260 for liquids. [District Rule 4401, 6.3.4] Federally Enforceable Through Title V Permit

50. The operator shall maintain an inspection log in which the operator records at least all of the following for each inspection performed: 1) The total number of components inspected, and the total number and percentage of leaking components found by component type, 2) The location, type and name or description of each leaking component and description of any unit where the leaking component is found, 3) The date of leak detection and the method of leak detection, 4) For gaseous leaks, the leak concentration in ppmv and, for liquids leaks, whether the leak is major or minor, 5) The date of repair, replacement or removal from operation of leaking components, 6) The identity and location of essential components and critical components as defined in this Rule, found leaking, that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, 7) The methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than 1 year after detection, whichever comes earlier, 8) The date or re-inspection and the leak concentration in ppmv after the component is repaired or replaced, 9) The inspectors name, business mailing address, and business telephone number, and 10) The date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401, 6.4] Federally Enforceable Through Title V Permit

51. The operator shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures as necessary. [District Rule 4401, 6.5] Federally Enforceable Through Title V Permit

52. By January 30 of each year, an operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to an existing Operator Management Plan. [District Rule 4401, 6.7] Federally Enforceable Through Title V Permit

53. All records of required monitoring data and support information shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2520, 9.4.2 and 4401, 6.1] Federally Enforceable Through Title V Permit

54. Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District NSR Rule] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-1135-149-21 **EXPIRATION DATE:** 05/31/2016

SECTION: 21 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:
3000 BBL CRUDE OIL LACT TANK ID# AG-01, WITH VAPOR CONTROL SYSTEM SHARED WITH TANKS S-1135-150, '151, '270, '301, '323 AND '339 (ANDERSON/GOODWIN LEASE)

PERMIT UNIT REQUIREMENTS

1. The tank shall be equipped with a vapor loss prevention system consisting of vapor and condensate collection systems capable of reducing VOC emissions by at least 99%. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Vapor control system shall contain vapor control system piping network and vapor compression system consisting of vapor compressor(s), air-cooled heat exchanger, inlet scrubber, pump, and discharge scrubber. [District Rule 2201] Federally Enforceable Through Title V Permit
3. All collected vapors shall be compressed to the Andersen-Goodwin Lease TEOR skid S-1135-129 for disposal. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Tank shall be designed and maintained to vent only to vapor control system, except during the period of tank cleaning, inspections, and maintenances allowed by this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
5. All tank gauging, hatches, sampling ports, pressure relief valves, vapor control system components, etc. shall be closed and leak-free (as defined in Rule 4623) except during sampling or attended maintenance. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Tanks seams, welds, joints, piping, valves, and fittings shall be inspected and maintained in a leak-free (as defined in Rule 4623) condition. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Compressor suction and knockout drum liquids shall be piped only to vapor-controlled tanks. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The operator shall ensure that the vapor control system is functional and is operating as designed at all times. [District Rule 2520] Federally Enforceable Through Title V Permit
9. Operator shall monitor vapor control system pressures on quarterly basis to ensure that system pressure does not exceed pressure relief valve setting. [District Rule 2520] Federally Enforceable Through Title V Permit
10. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 10.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Maximum VOC content of hydrocarbons in tank vapor shall not exceed 20% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Permittee shall measure VOC content of tank vapor annually using EPA Method 18, 25, 25a, 25b, or ASTM D-1945. [District Rule 2201] Federally Enforceable Through Title V Permit
13. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) not exceeding 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

14. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
15. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
16. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
17. Permittee shall maintain records of all TVP and API gravity testing performed and shall submit such records to the APCO upon request. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
18. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor recovery system and resulting emissions calculated using using Table 2-4 Oil and Gas Production Operations Average Emissions factors from the EPA Protocol for Equipment Leak Emissions Estimates EPA-453/R-95-017. [District Rule 2201] Federally Enforceable Through Title V Permit
19. This permit authorizes tank cleaning that is not the result of breakdowns or poor maintenance as a routine maintenance activity. [District Rule 2080] Federally Enforceable Through Title V Permit
20. There shall be no throughput during cleaning of this tank. [District Rule 2080] Federally Enforceable Through Title V Permit
21. Prior to opening the tank to allow tank cleaning the following procedure must be followed. Operate PV valve and vapor recovery system (if equipped) during emptying, filling, and flushing. During filling and purging, no vapor leakage is allowed (except for PV valve venting on tanks not required to have a vapor recovery system). Drain all liquid from the tank to the maximum extent feasible prior to opening the tank. [District Rule 2080] Federally Enforceable Through Title V Permit
22. Prior to opening the tank to allow tank cleaning one of the following options must be followed: 1) operate the vapor recovery system for at least 2 hours after all the liquid in the tank has been drained, 2) displace vapors floating the oil pad off with water such that 90% of the tank volume is displaced, 3) vent the tank to the vapor control system until the vapor concentration is less than 10% of the lower explosive limit (LEL) or 5,000 ppmv whichever is less; or 4) vent the tank to the vapor control system for a length of time determined by the following relationship: $t = 2.3\ V / Q$, where t = time, V = tank volume (cubic feet), and Q= flow rate to the vapor control system as determined using appropriate engineering calculations. [District Rule 2080] Federally Enforceable Through Title V Permit
23. Allowable methods of cleaning include using steam, diesel, solvents with an initial boiling point of greater than 302 F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams/liter VOC content or less. Steam cleaning shall be allowed at locations where wastewater treatment facilities are limited or during December through March. [District Rule 2080] Federally Enforceable Through Title V Permit
24. Tank pressure/vacuum valve (Varec) shall be inspected on an annual basis. During the varec inspections, the varec can be removed from the tank and replaced if necessary. The permittee shall minimize emissions from the opening by plugging the opening during the removal of varec valve. [District Rule 2080] Federally Enforceable Through Title V Permit
25. The pressure transmitters shall be inspected and maintained in good operating conditions. The inspections shall be conducted on a quarterly basis. Replacing and repairing of each pressure transmitters shall not exceed one hour per day. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

26. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 2520] Federally Enforceable Through Title V Permit

27. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 2520] Federally Enforceable Through Title V Permit

28. An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 2520] Federally Enforceable Through Title V Permit

29. Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 2520] Federally Enforceable Through Title V Permit

30. Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 2520] Federally Enforceable Through Title V Permit

31. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 2520] Federally Enforceable Through Title V Permit

32. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 2520] Federally Enforceable Through Title V Permit

33. Permittee shall keep accurate records of TVP of liquids stored in each tank and such records shall be made readily available for District inspection at any time for a time period of five years. [District Rule 2520] Federally Enforceable Through Title V Permit

34. Permittee shall maintain records of the date and duration of the vapor control system maintenance operation. Such records shall be made available for district inspection upon request for a period of at least five years. [District Rule 2201 and District Rule 2520] Federally Enforceable Through Title V Permit

35. Permittee shall keep records of VOC content of tank vapor and such records shall be made available for District inspection upon request for a period of 5 years. [District Rule 1070] Federally Enforceable Through Title V Permit

36. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

ATTACHMENT II
Gas Analysis

PGT
Pacific Gas Technology

Attention: Mr. Royce Hilley
Aera Energy LLC
25401 Hwy 33
Fellows, Ca 93224

Sampled: 11/14/2014
Submitted: 11/14/2014
Analyzed: 11/17/2014
Reported: 11/19/2014

Gas Analysis by Chromatography - ASTM D 1945/D 3588

Meter#:
Location: A&G T.V.R.
Field: North Midway Sunset

Lab No.: 141168-5
Pressure:
Temperature:

Component	Mole %	Weight %	G/MCF
Oxygen	ND	0.00	
Nitrogen	0.99	1.46	
Carbon Dioxide	0.54	1.25	
Hydrogen	ND	0.00	
Carbon Monoxide	ND	0.00	
Methane	87.23	73.88	
Ethane	6.58	10.45	
Propane	2.37	5.52	0.654
Iso-Butane	0.62	1.90	0.203
n-Butane	1.14	3.50	0.360
iso-Pentane	0.16	0.61	0.059
n-Pentane	0.34	1.30	0.123
Hexanes Plus	0.03	0.14	0.012
Totals	100.00	100.00	1.412

			Values Corrected for Compressibility
Specific Volume, ft3/lb		20.03	
Compressibility (Z) Factor		0.9972	
Specific Gravity, Calculated		0.6540	0.6556
GROSS			
BTU/ft3	Dry	1135.9	1139.1
	Wet	1116.0	1119.2
BTU/lb	Dry	22754.9	22818.9
BTU/lb	Wet	22356.7	22419.6
NET			
BTU/ft3	Dry	1027.4	1030.3
	Wet	1009.4	1012.3
BTU/lb	Dry	20581.2	20639.1
BTU/lb	Wet	20221.0	20277.9

CHONS	Weight %
Carbon	74.669
Hydrogen	22.954
Oxygen	0.912
Nitrogen	1.464
Sulfur	0.000
F FACTOR @ 68 deg F, dscf/MMBTU	8659
F FACTOR @ 60 deg F, dscf/MMBTU	8529

		Method	
Hydrogen Sulfide, ppm	2,000	Method	GC/FPD
Dew Point, deg F	Not Tested	Method	Bureau of Mines
Total Sulfur as Hydrogen Sulfide, ppm	2,220	Method	ASTM D3246
Operating Conditions:	Normal	Method	Bureau of Mines
Molecular Operations	18.94		

ND None Detected
Tr Trace

ATTACHMENT III
Fugitive Emissions

Anderson Goodwin Pressure Vessels

Crude Dehy Facility TVR System

EPA Protocol for Equipment Leak Emission Estimate

Table 2-4. *Oil and Gas Production Operations*
Average Emission Factors

[1]Weight percentage of VOC in the total organic compounds in gas? **4.66** %

Equipment Type	Service	Screening Value EF - TOC (kg/hr/source)	(lb/day/source)	Component Count	VOC emissions (lb/day)
Valves	Gas	4.5E-03	2.381E-01	4	0.044
	Heavy Oil	8.4E-06	4.445E-04	0	0.00
	Light Oil	2.5E-03	1.323E-01	0	0.00
	Water/Oil	9.8E-05	5.185E-03	0	0.00
Pump Seals	Gas	2.4E-03	1.270E-01	0	0.000
	Heavy Oil	N/A	N/A	0	N/A
	Light Oil	1.3E-02	6.878E-01	0	0.00
	Water/Oil	2.4E-05	1.270E-03	0	0.00
Others	Gas	8.8E-03	4.656E-01	0	0.000
	Heavy Oil	3.2E-05	1.693E-03	0	0.00
	Light Oil	7.5E-03	3.968E-01	0	0.00
	Water/Oil	1.4E-02	7.408E-01	0	0.00
Connectors	Gas	2.0E-04	1.058E-02	4	0.002
	Heavy Oil	7.5E-06	3.968E-04	0	0.00
	Light Oil	2.1E-04	1.111E-02	0	0.00
	Water/Oil	1.1E-04	5.820E-03	0	0.00
Flanges	Gas	3.9E-04	2.064E-02	8	0.008
	Heavy Oil	3.9E-07	2.064E-05	0	0.00
	Light Oil	1.1E-04	5.820E-03	0	0.00
	Water/Oil	2.9E-06	1.534E-04	0	0.00
Open-ended Lines	Gas	2.0E-03	1.058E-01	0	0.000
	Heavy Oil	1.4E-04	7.408E-03	0	0.00
	Light Oil	1.4E-03	7.408E-02	0	0.00
	Water/Oil	2.5E-04	1.323E-02	0	0.00

Total VOC Emissions = **0.05 lb/day**

[1] Per Lab Analysis dated: 11/14/2014

Emission Limit = **0.8 lb/day**

Anderson Goodwin Pressure Vessels

HT #3

EPA Protocol for Equipment Leak Emission Estimate

Table 2-4. *Oil and Gas Production Operations Average Emission Factors*

[1]Weight percentage of VOC in the total organic compounds in gas? **20.00** %

Equipment Type	Service	Screening Value EF - TOC (kg/hr/source)	(lb/day/source)	Component Count	VOC emissions (lb/day)
Valves	Gas	4.5E-03	2.381E-01	10	0.476
	Heavy Oil	8.4E-06	4.445E-04	0	0.00
	Light Oil	2.5E-03	1.323E-01	0	0.00
	Water/Oil	9.8E-05	5.185E-03	0	0.00
Pump Seals	Gas	2.4E-03	1.270E-01	0	0.000
	Heavy Oil	N/A	N/A	0	N/A
	Light Oil	1.3E-02	6.878E-01	0	0.00
	Water/Oil	2.4E-05	1.270E-03	0	0.00
Others	Gas	8.8E-03	4.656E-01	0	0.000
	Heavy Oil	3.2E-05	1.693E-03	0	0.00
	Light Oil	7.5E-03	3.968E-01	0	0.00
	Water/Oil	1.4E-02	7.408E-01	0	0.00
Connectors	Gas	2.0E-04	1.058E-02	14	0.030
	Heavy Oil	7.5E-06	3.968E-04	0	0.00
	Light Oil	2.1E-04	1.111E-02	0	0.00
	Water/Oil	1.1E-04	5.820E-03	0	0.00
Flanges	Gas	3.9E-04	2.064E-02	22	0.091
	Heavy Oil	3.9E-07	2.064E-05	0	0.00
	Light Oil	1.1E-04	5.820E-03	0	0.00
	Water/Oil	2.9E-06	1.534E-04	0	0.00
Open-ended Lines	Gas	2.0E-03	1.058E-01	0	0.000
	Heavy Oil	1.4E-04	7.408E-03	0	0.00
	Light Oil	1.4E-03	7.408E-02	0	0.00
	Water/Oil	2.5E-04	1.323E-02	0	0.00

Total VOC Emissions = 0.60 lb/day

[1] Per Lab Analysis dated: 11/14/2014

ATTACHMENTY IV
Emissions Profiles

Application Emissions

Permit #: S-1135-129-28 **Last Updated**
Facility: AERA ENERGY LLC 02/11/2015 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	52195.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	143.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-149-22 **Last Updated**
Facility: AERA ENERGY LLC 02/11/2015 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	3000.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	10.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-346-0 **Last Updated**
Facility: AERA ENERGY LLC 02/17/2015 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	219.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	54.0
Q2:	0.0	0.0	0.0	0.0	55.0
Q3:	0.0	0.0	0.0	0.0	55.0
Q4:	0.0	0.0	0.0	0.0	55.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-347-0 **Last Updated**
Facility: AERA ENERGY LLC 02/17/2015 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	219.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0		0.0	0.0	54.0
Q2:	0.0	0.0	0.0	0.0	55.0
Q3:	0.0	0.0	0.0	0.0	55.0
Q4:	0.0	0.0	0.0	0.0	55.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-348-0 **Last Updated**
Facility: AERA ENERGY LLC 02/17/2015 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	219.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	54.0
Q2:	0.0	0.0	0.0	0.0	55.0
Q3:	0.0	0.0	0.0	0.0	55.0
Q4:	0.0	0.0	0.0	0.0	55.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-349-0 **Last Updated**
Facility: AERA ENERGY LLC 02/17/2015 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	219.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	54.0
Q2:	0.0	0.0	0.0	0.0	55.0
Q3:	0.0	0.0	0.0	0.0	55.0
Q4:	0.0	0.0	0.0	0.0	55.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-350-0 **Last Updated**
Facility: AERA ENERGY LLC 02/17/2015 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	219.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	54.0
Q2:	0.0	0.0	0.0	0.0	55.0
Q3:	0.0	0.0	0.0	0.0	55.0
Q4:	0.0	0.0	0.0	0.0	55.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-351-0 **Last Updated**
Facility: AERA ENERGY LLC 02/17/2015 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	219.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	54.0
Q2:	0.0	0.0	0.0	0.0	55.0
Q3:	0.0	0.0	0.0	0.0	55.0
Q4:	0.0	0.0	0.0	0.0	55.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-353-0 **Last Updated**
Facility: AERA ENERGY LLC 02/17/2015 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	219.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	54.0
Q2:	0.0	0.0	0.0	0.0	55.0
Q3:	0.0	0.0	0.0	0.0	55.0
Q4:	0.0	0.0	0.0	0.0	55.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-354-0 **Last Updated**
Facility: AERA ENERGY LLC 02/17/2015 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	219.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	54.0
Q2:	0.0	0.0	0.0	0.0	55.0
Q3:	0.0	0.0	0.0	0.0	55.0
Q4:	0.0	0.0	0.0	0.0	55.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-355-0 **Last Updated**
Facility: AERA ENERGY LLC 02/17/2015 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	219.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	54.0
Q2:	0.0	0.0	0.0	0.0	55.0
Q3:	0.0	0.0	0.0	0.0	55.0
Q4:	0.0	0.0	0.0	0.0	55.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Application Emissions

Permit #: S-1135-356-0 **Last Updated**
Facility: AERA ENERGY LLC 02/17/2015 EDGEHILR

Equipment Pre-Baselined: NO

	NOX	SOX	PM10	CO	VOC
Potential to Emit (lb/Yr):	0.0	0.0	0.0	0.0	219.0
Daily Emis. Limit (lb/Day)	0.0	0.0	0.0	0.0	0.6
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	54.0
Q2:	0.0	0.0	0.0	0.0	55.0
Q3:	0.0	0.0	0.0	0.0	55.0
Q4:	0.0	0.0	0.0	0.0	55.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

ATTACHMENT V
Title V Compliance Certification Form

San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

[ ] SIGNIFICANT PERMIT MODIFICATION [ ] ADMINISTRATIVE AMENDMENT
[X] MINOR PERMIT MODIFICATION

COMPANY NAME: **AERA ENERGY LLC**	FACILITY ID S T135
1. Type of Organization: [X] Corporation [ ] Sole Ownership [ ] Government [ ] Partnership [ ] Utility	
2. Owner's Name: **AERA ENERGY LLC**	
3. Agent to the Owner: N/A	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

(V) Based on information and belief formed after reasonable inquiry, the emissions unit(s) identified in this application will continue to comply with the applicable federal requirement(s) with which the emissions unit(s) is in compliance.

(V) Based on information and belief formed after reasonable inquiry, the emissions unit(s) identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

(V) Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

(V) Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true, accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

D. C. Shuck — 10/9/14

Signature of Responsible Official — Date

D.C. (David) Shuck
Name of Responsible Official (please print)

Process Supervisor
Title of Responsible Official (please print)

ATTACHMENT VI
Draft ATCs

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1135-129-28 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: NW21 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:
MODIFICATION OF THERMALLY ENHANCED OIL RECOVERY OPERATION AUTHORIZED FOR 425 STEAM ENHANCED WELLS INCLUDING BALANCED WELL VENT CONTROL SYSTEM, VAPOR PIPING TO INJECTION WELLS (ANDERSON-GOODWIN LEASE): LIST EXISTING VESSELS S-1135-346 THROUGH '-351 AND '-353 THROUGH '-356 AS CONNECTED TO VAPOR CONTROL SYSTEM

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. {1294} The crude oil production from wells associated with this permit unit shall not lie within 1000 feet of an air injection well used for in-situ combustion. [District Rule 4407, 2.0, 3.4, and 3.5] Federally Enforceable Through Title V Permit
4. All required source testing shall conform to the compliance testing procedures described in District Rule 1081(as amended December 16, 1993). [District Rule 1081] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-1135-129-28 : Feb 19 2015 3:17PM -- EDGEHILR : Joint Inspection NOT Required

5. Volatile organic compound (VOC) emissions from the entire system (including fugitive emissions from components handling vapor and condensate) shall not exceed 143.0 lb/day. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Compliance with permit conditions in the Title V permit shall be deemed compliance with the Kern County Rule 108.1. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
7. Compliance with permit conditions in the Title V permit shall be deemed compliance with SJVUAPCD Rule 4401 (Amended January 15, 1998), excluding sections 5.1 and 5.2 for control systems which have been waived from complying with the requirement of section 6.2.1. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
8. {1769} The crude oil production wells associated with this unit do not have production enhanced by in-situ combustion. Therefore, the requirements of SJVUAPCD Rule 4407 (Adopted May 19, 1994) do not apply to this permit unit. A permit shield is granted from this requirement. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
9. TEOR gas injected into formation shall only be performed using Department of Oil, Gas & Geothermal (DOGGR) approved injection wells. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Permit holder shall cease injecting vapors and notify the District immediately if DOGGR injection approval is revoked, denied, terminated, surrendered or altered to disallow injection. This condition does not grant the permittee relief from any permit condition or other requirement of the Clean Air Act. [District NSR Rule] Federally Enforceable Through Title V Permit
11. Permit holder shall maintain with the permit a listing (updated annually within 60 days of permit anniversary) of all steam enhanced wells connected to the casing vent control system. [District Rule 1070] Federally Enforceable Through Title V Permit
12. TEOR vapors shall be injected to the formation or shall be contained within balanced casing vent collection system, or well casing vents shall be closed and produced fluids handled only in controlled production equipment. [District NSR Rule] Federally Enforceable Through Title V Permit
13. Collected liquids shall be handled, stored, and disposed of in a manner preventing air contaminant emissions. [District NSR Rule] Federally Enforceable Through Title V Permit
14. The fugitive emissions component inspection and reinspection requirements of Section 5.4.1 through Section 5.4.7 of this rule shall not apply to components exclusively handling gas/vapor or liquid with a VOC content of ten percent by weight or less (£10 wt.%), as determined by the test methods in Section 6.3.4. [District Rule 4401] Federally Enforceable Through Title V Permit
15. During the time any steam-enhanced crude oil production well is undergoing service or repair while the well is not producing, it shall be exempt from the requirements of District Rule 4401. [District Rule 4401, 4.1] Federally Enforceable Through Title V Permit
16. The uncontrolled VOC emissions from any well vent shall be reduced by at least 99 percent by weight or, if several steam-enhanced crude oil production well vents are connected to a vapor collection and control system, total uncontrolled VOC emissions shall be reduced by at least 99 percent. [District Rule 4401, 5.1 and 5.2] Federally Enforceable Through Title V Permit
17. An operator shall not operate a steam-enhanced crude oil production well unless either of the following two conditions are met: 1) The steam-enhanced crude oil production well vent is closed and the front line production equipment downstream of the wells that carry produced fluids is connected to a VOC collection and control system as defined in Section 3.0 of this Rule or 2) the steam-enhanced crude oil production well vent is open and the well vent is connected to a VOC collection and control system as defined in Section 3.0. [District Rule 4401, 5.5.1 and 5.5.2] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. There shall be no open-ended line or a valve located at the end of the line that is not sealed with a blind flange, plug, cap, or a second closed valve that is not closed at all times, except during attended operations requiring process fluid flow through the open-ended lines. Attended operations include draining or degassing operations, connection of temporary process equipment, sampling of process streams, emergency venting, and other normal operational needs, provided such operations are done as expeditiously as possible and with minimal spillage of material and VOC emissions to the atmosphere. [District Rule 4401, 5.2.2.1] Federally Enforceable Through Title V Permit

19. There shall be no components with a major liquid leak as defined in Section 3.20.2 of Rule 4401. [District Rule 4401, 5.2.2.2] Federally Enforceable Through Title V Permit

20. There shall be no components with a gas leak of greater than 50,000 ppmv. [District Rule 4401, 5.2.2.3] Federally Enforceable Through Title V Permit

21. An operator shall be in violation of this rule if any District inspection demonstrates or if any operator inspection conducted pursuant to Section 5.4 of Rule 4401 demonstrates the existence of any combination of components with minor liquid leaks, minor gas leaks, or gas leaks greater than 10,000 ppmv up to 50,000 ppmv that totals more than number of leaks allowed by Table 2 of Rule 4401. [District Rule 4401, 5.2] Federally Enforceable Through Title V Permit

22. No leaking components (as defined in Section 5.2.2 of Rule 4401) may be used unless they have been identified with a tag for repair, are repaired, or awaiting re-inspection after being repaired within the applicable time frame specified in Section 5.5. [District Rule 4401, 5.7.1] Federally Enforceable Through Title V Permit

23. Each hatch shall be closed at all times except during attended repair, replacement, or maintenance operations, providing such activities are done as expeditiously as possible with minimal spillage or material and VOC emissions into the atmosphere. [District Rule 4401, 5.3.2] Federally Enforceable Through Title V Permit

24. The operator shall comply with the requirements of Section 6.7 if there is any change in the description of major components or critical components. [District Rule 4401, 5.3.3] Federally Enforceable Through Title V Permit

25. Unless otherwise specified in Section 5.4, an operator shall perform all component inspections and gas leak measurements pursuant to the requirements of Section 6.3.3. [District Rule 4401, 5.4] Federally Enforceable Through Title V Permit

26. Except for pipes and unsafe-to-monitor components, an operator shall inspect all other components pursuant to the requirements of Section 6.3.3 at least once every year. [District Rule 4401, 5.4.1] Federally Enforceable Through Title V Permit

27. An operator shall visually inspect all pipes at least once every year. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of this Rule. [District Rule 4401, 5.4.2] Federally Enforceable Through Title V Permit

28. An operator shall inspect for leaks all accessible operating pumps, compressors, and PRDs in service as follows: 1) An operator shall audio-visually (by hearing and by sight) inspect for leaks all accessible operating pumps, compressors, and PRDs in service at least once each calendar week. 2) Any audio-visual inspection of an accessible operating pump, compressor, and PRD performed by an operator that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected not later than 24 hours after conducting the audio-visual inspection. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 3 of this Rule. [District Rule 4401, 5.4.3] Federally Enforceable Through Title V Permit

29. The operator shall also perform the following inspections: 1) An operator shall initially inspect a PRD that releases to the atmosphere as soon as practicable but not later than 24 hours after the discovery of the release. An operator shall re-inspect the PRD not earlier than 24 hours after the initial inspection but not later than 15 calendar days after the initial inspection. 2) An operator shall inspect all new, replaced, or repaired fittings, flanges, and threaded connections within 72 hours of placing the component in service, and 3) Except for PRDs subject to the requirements of Section 5.4.4.1 of this Rule, an operator shall inspect a component that has been repaired or replaced not later than 15 calendar days after the component was repaired or replaced. [District Rule 4401, 5.4.4] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

30. Components located in unsafe areas shall be inspected and repaired at the next process unit turnaround and inaccessible components shall be inspected at least annually. [District Rule 4401, 5.4.7] Federally Enforceable Through Title V Permit

31. A District inspection in no way fulfills any of the mandatory inspection requirements that are placed upon operators and cannot be used or counted as an inspection required of an operator. [District Rule 4401, 5.4.8] Federally Enforceable Through Title V Permit

32. Upon detection of a leak, an operator shall affix a readily visible weatherproof tag to that leaking component that includes the following information: 1) The date and time of leak detection; 2) The date and time of the leak measurement; 3) For a gaseous leak, the leak concentration in ppmv; 4) For a liquid leak, whether it is a major or minor liquid leak; and 5) Whether the component is an essential component, and unsafe-to-monitor component, or a critical component. [District Rule 4401, 5.5.1] Federally Enforceable Through Title V Permit

33. The tag shall remain affixed to the leaky component until all the following requirements are met: 1) The component is repaired or replaced, 2) The component is re-inspected as set forth in Section 6.3, and 3) The component is found to be in compliance with this Rule. [District Rule 4401, 5.5.2] Federally Enforceable Through Title V Permit

34. An operator shall minimize a component leak in order to stop or reduce leakage to the atmosphere immediately to the extent possible, but not later than one (1) hour after detection of the leak. [District Rule 4401, 5.5.3] Federally Enforceable Through Title V Permit

35. Except for leaking critical components or leaking essential components subject to the requirements of Section 5.9.7, if an operator has minimized a leak but the leak still exceeds the applicable leak limits as defined in Section 3.0, an operator shall comply with at least one of the following three requirements as soon as practicable but not later than the time period specified in Table 3: 1) Repair or replace the leaking component, 2) Vent the leaking component to a VOC collection and control system as defined in Section 3.0, or 3) Remove the leaking component from operation. [District Rule 4401, 5.5.4] Federally Enforceable Through Title V Permit

36. The repair period in calendar days shall not exceed 14 days for minor gas leaks, 5 days for major gas leaks less than or equal to 50,000 ppmv, 2 days for gas leak greater than 50,000 ppmv, 3 days for minor liquid leaks, 2 days for major liquid leaks. [District Rule 4401, 5.5.4] Federally Enforceable Through Title V Permit

37. The leak rate measured after leak minimization has been performed shall be the leak rate used to determine the applicable repair period specified in Table 3. [District Rule 4401, 5.5.5] Federally Enforceable Through Title V Permit

38. The time of the initial leak detection shall be the start of the repair period specified in Table 3. [District Rule 4401, 5.5.6] Federally Enforceable Through Title V Permit

39. If the leaking component is an essential component or a critical component that cannot be immediately shut down for repairs, and if the leak has been minimized but the leak still exceeds the applicable leak standard of this rule, the operator shall repair or replace the essential component or critical component to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection, whichever comes earlier. [District Rule 4401, 5.5.7] Federally Enforceable Through Title V Permit

40. The operator of any steam-enhanced crude oil production well shall maintain records of the date and well identification where steam injection or well stimulation occurs. [District Rule 4401, 6.1.1] Federally Enforceable Through Title V Permit

41. An operator of any steam-enhanced crude oil production well shall keep source test records which demonstrate compliance with the control efficiency requirements of the VOC collection and control system as defined in Section 3.0 of Rule 4401. [District Rule 4401, 6.1.3] Federally Enforceable Through Title V Permit

42. The operator of any steam-enhanced crude oil production well shall maintain an inspection log pursuant to Section 6.4 of Rule 4401. [District Rule 4401, 6.1.4] Federally Enforceable Through Title V Permit

43. Records shall be maintained of each calibration of the portable hydrocarbon detection instrument utilized for inspecting components, including a copy of current calibration gas certification from the vendor of said calibration gas cylinder, the date of calibration, concentration of calibration gas, instrument reading of calibration gas before adjustment, instrument reading of calibration gas after adjustment, calibration gas expiration date, and calibration gas cylinder pressure at the time of calibration [District Rule 4401, 6.1.5] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

44. An operator shall maintain copies at the facility of the training records of the training program operated pursuant to Section 6.5 of Rule 4401. [District Rule 4401, 6.1.6] Federally Enforceable Through Title V Permit

45. An operator shall source test annually all vapor collection and control systems used to control emissions from steam-enhanced crude oil production well vents to determine the control efficiency of the device(s) used for destruction or removal of VOC. Compliance testing shall be performed annually by source testers certified by ARB. Testing shall be performed during June, July, August, or September of each year if the system's control efficiency is dependent upon ambient air temperature. [District Rule 44011, 6.2.1] Federally Enforceable Through Title V Permit

46. If approved by EPA, ARB, and the APCO, an operator need not comply with the annual testing requirement of Section 6.2.1 if all uncondensed VOC emissions collected by a vapor collection and control system are incinerated in fuel burning equipment, an internal combustion engine or in a smokeless flare. [District Rule 4401, 6.2.2] Federally Enforceable Through Title V Permit

47. An operator shall comply with the following requirements for each gauge tank, as defined in Section 3.17 of Rule 4401: Conduct an initial TVP testing of the produced fluid in each gauge tank not later than June 14, 2007. Thereafter, an operator shall conduct periodic TVP testing of each gauge tank at least once every 24 months during summer (July - September), and whenever there is a change in the source or type of produced fluid in the gauge tank. The TVP testing shall be conducted at the actual storage temperature of the produced fluid in the gauge tank using the applicable TVP test method specified in Section 6.4 of Rule 4623 (Storage of Organic Liquids). The operator shall submit the TVP testing results to the APCO as specified in Section 6.1.9 of Rule 4401. [District Rule 4401, 6.2.3] Federally Enforceable Through Title V Permit

48. The control efficiency of any VOC control device, measured and calculated as carbon, shall be determined by EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case EPA Method 25a may be used. EPA Method 18 may be used in lieu of EPA Method 25 or EPA Method 25a provided the identity and approximate concentrations of the analytes/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of those known analyte/compound to ensure that the VOC concentrations are neither under- or over-reported. [District Rule 4401, 6.3.1] Federally Enforceable Through Title V Permit

49. VOC content shall be analyzed by using the latest revision of ASTM Method E168, E169, or E260 as applicable. Analysis of halogenated exempt compounds shall be performed by using ARB Method 432. [District Rule 4401, 6.3.2] Federally Enforceable Through Title V Permit

50. Leak inspection, other than audio-visual, and measurements of gaseous leak concentrations shall be conducted according to EPA Method 21 using an appropriate portable hydrocarbon detection instrument calibrated with methane. The instrument shall be calibrated in accordance with the procedures specified in EPA Method 21 or the manufacturer's instruction, as appropriate, not more than 30 days prior to its use. The operator shall record the calibration date of the instrument. Where safety is a concern, such as measuring leaks from compressor seals or pump seals when the shaft is rotating, a person shall measure leaks by placing the instrument probe inlet at a distance of one (1) centimeter or less from the surface of the component interface. [District Rule 4401, 6.3.3] Federally Enforceable Through Title V Permit

51. The VOC content by weight percent (wt.%) shall be determined using American Society of Testing and Materials (ASTM) D1945 for gases and South Coast Air Quality Management District (SCAQMD) Method 304-91 or the latest revision of ASTM Method E168, E169 or E260 for liquids. [District Rule 4401, 6.3.4] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

52. The operator shall maintain an inspection log in which the operator records at least all of the following for each inspection performed: 1) The total number of components inspected, and the total number and percentage of leaking components found by component type, 2) The location, type and name or description of each leaking component and description of any unit where the leaking component is found, 3) The date of leak detection and the method of leak detection, 4) For gaseous leaks, the leak concentration in ppmv and, for liquids leaks, whether the leak is major or minor, 5) The date of repair, replacement or removal from operation of leaking components, 6) The identity and location of essential components and critical components as defined in this Rule, found leaking, that cannot be repaired until the next process unit turnaround or not later than one year after leak detection, whichever comes earlier, 7) The methods used to minimize the leak from essential components and critical components found leaking that cannot be repaired until the next process unit turnaround or not later than 1 year after detection, whichever comes earlier, 8) The date or re-inspection and the leak concentration in ppmv after the component is repaired or replaced, 9) The inspectors name, business mailing address, and business telephone number, and 10) The date and signature of the facility operator responsible for the inspection and repair program certifying the accuracy of the information recorded in the log. [District Rule 4401, 6.4] Federally Enforceable Through Title V Permit

53. The operator shall establish and implement an employee training program for inspecting and repairing components and recordkeeping procedures as necessary. [District Rule 4401, 6.5] Federally Enforceable Through Title V Permit

54. By January 30 of each year, an operator shall submit to the APCO for approval, in writing, an annual report indicating any changes to an existing Operator Management Plan. [District Rule 4401, 6.7] Federally Enforceable Through Title V Permit

55. All records of required monitoring data and support information shall be maintained for a period of at least five years and shall be made readily available for District inspection upon request. [District Rules 2520, 9.4.2 and 4401, 6.1] Federally Enforceable Through Title V Permit

56. Permittee shall maintain accurate component count for tank according to CAPCOA's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities," Table IV-2c (Feb 1999), Screening Value Range emission factors < 10,000 ppmv. Permittee shall update such records when new components are approved and installed. [District NSR Rule] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1135-149-22 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: NW 21 **TOWNSHIP:** 31S **RANGE:** 22E

EQUIPMENT DESCRIPTION:
MODIFICATION OF 126,000 GALLON CRUDE OIL LACT TANK ID# AG-01, WITH VAPOR CONTROL SYSTEM SHARED WITH TANKS S-1135-150, '151, '155, '270, '301, '323 AND '339 (ANDERSON/GOODWIN LEASE): LIST EXISTING VESSELS S-1135-346 THROUGH '-351 AND '-353 THROUGH '-356 AS CONNECTED TO VAPOR CONTROL SYSTEM

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. The tank shall be equipped with a vapor loss prevention system consisting of vapor and condensate collection systems capable of reducing VOC emissions by at least 99%. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Vapor control system shall contain vapor control system piping network and vapor compression system consisting of vapor compressor(s), air-cooled heat exchanger, inlet scrubber, pump, and discharge scrubber. [District Rule 2201] Federally Enforceable Through Title V Permit
5. All collected vapors shall be compressed to the Andersen-Goodwin Lease TEOR skid S-1135-129 for disposal. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

Arnaud Marjollet, Director of Permit Services
S-1135-149-22 : Feb 19 2015 3:17PM -- EDGEHILR : Joint Inspection NOT Required

6. Tank shall be designed and maintained to vent only to vapor control system, except during the period of tank cleaning, inspections, and maintenances allowed by this permit. [District Rule 2201] Federally Enforceable Through Title V Permit
7. All tank gauging, hatches, sampling ports, pressure relief valves, vapor control system components, etc. shall be closed and leak-free (as defined in Rule 4623) except during sampling or attended maintenance. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Tanks seams, welds, joints, piping, valves, and fittings shall be inspected and maintained in a leak-free (as defined in Rule 4623) condition. [District Rule 2201] Federally Enforceable Through Title V Permit
9. A gas leak is a reading in excess of 10,000 parts per million by volume (ppmv), as methane, above background on a portable hydrocarbon detection instrument that is calibrated with methane in accordance with the test method in Section 6.4.8. A liquid leak is the dripping of organic liquid at a rate of more than 3 drops per minute. [District Rule 4623] Federally Enforceable Through Title V Permit
10. Compressor suction and knockout drum liquids shall be piped only to vapor-controlled tanks. [District Rule 2201] Federally Enforceable Through Title V Permit
11. The operator shall ensure that the vapor control system is functional and is operating as designed at all times. [District Rule 2520] Federally Enforceable Through Title V Permit
12. Operator shall monitor vapor control system pressures on quarterly basis to ensure that system pressure does not exceed pressure relief valve setting. [District Rule 2520] Federally Enforceable Through Title V Permit
13. The fugitive VOC emissions from this tank and the vapor control system shall not exceed 10.0 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Maximum VOC content of hydrocarbons in tank vapor shall not exceed 20% by weight. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Permittee shall measure VOC content of tank vapor annually using EPA Method 18, 25, 25a, 25b, or ASTM D-1945. [District Rule 2201] Federally Enforceable Through Title V Permit
16. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) not exceeding 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
17. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
18. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
19. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
20. Permittee shall maintain records of all TVP and API gravity testing performed and shall submit such records to the APCO upon request. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit
21. Permittee shall maintain with the permit accurate fugitive component counts for tank and associated vapor recovery system and resulting emissions calculated using using Table 2-4 Oil and Gas Production Operations Average Emissions factors from the EPA Protocol for Equipment Leak Emissions Estimates EPA-453/R-95-017. [District Rule 2201] Federally Enforceable Through Title V Permit
22. This permit authorizes tank cleaning that is not the result of breakdowns or poor maintenance as a routine maintenance activity. [District Rule 2080] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

23. There shall be no throughput during cleaning of this tank. [District Rule 2080] Federally Enforceable Through Title V Permit

24. Prior to opening the tank to allow tank cleaning the following procedure must be followed. Operate PV valve and vapor recovery system (if equipped) during emptying, filling, and flushing. During filling and purging, no vapor leakage is allowed (except for PV valve venting on tanks not required to have a vapor recovery system). Drain all liquid from the tank to the maximum extent feasible prior to opening the tank. [District Rule 2080] Federally Enforceable Through Title V Permit

25. Prior to opening the tank to allow tank cleaning one of the following options must be followed: 1) operate the vapor recovery system for at least 2 hours after all the liquid in the tank has been drained, 2) displace vapors floating the oil pad off with water such that 90% of the tank volume is displaced, 3) vent the tank to the vapor control system until the vapor concentration is less than 10% of the lower explosive limit (LEL) or 5,000 ppmv whichever is less; or 4) vent the tank to the vapor control system for a length of time determined by the following relationship: $t = 2.3\ V / Q$, where t = time, V = tank volume (cubic feet), and Q= flow rate to the vapor control system as determined using appropriate engineering calculations. [District Rule 2080] Federally Enforceable Through Title V Permit

26. Allowable methods of cleaning include using steam, diesel, solvents with an initial boiling point of greater than 302 F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams/liter VOC content or less. Steam cleaning shall be allowed at locations where wastewater treatment facilities are limited or during December through March. [District Rule 2080] Federally Enforceable Through Title V Permit

27. Tank pressure/vacuum valve (Varec) shall be inspected on an annual basis. During the varec inspections, the varec can be removed from the tank and replaced if necessary. The permittee shall minimize emissions from the opening by plugging the opening during the removal of varec valve. [District Rule 2080] Federally Enforceable Through Title V Permit

28. The pressure transmitters shall be inspected and maintained in good operating conditions. The inspections shall be conducted on a quarterly basis. Replacing and repairing of each pressure transmitters shall not exceed one hour per day. [District Rule 2201] Federally Enforceable Through Title V Permit

29. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 2520] Federally Enforceable Through Title V Permit

30. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 2520] Federally Enforceable Through Title V Permit

31. An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 2520] Federally Enforceable Through Title V Permit

32. Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 2520] Federally Enforceable Through Title V Permit

33. Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 2520] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

34. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 2520] Federally Enforceable Through Title V Permit

35. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 2520] Federally Enforceable Through Title V Permit

36. Permittee shall keep accurate records of TVP of liquids stored in each tank and such records shall be made readily available for District inspection at any time for a time period of five years. [District Rule 2520] Federally Enforceable Through Title V Permit

37. Permittee shall maintain records of the date and duration of the vapor control system maintenance operation. Such records shall be made available for district inspection upon request for a period of at least five years. [District Rule 2201 and District Rule 2520] Federally Enforceable Through Title V Permit

38. Permittee shall keep records of VOC content of tank vapor and such records shall be made available for District inspection upon request for a period of 5 years. [District Rule 1070] Federally Enforceable Through Title V Permit

39. This unit has a storage capacity less than 420,000 gallons and is used for petroleum or condensate stored, processed and/or treated at a drilling and production facility prior to custody transfer. Therefore, the requirements of 40CFR 60 Subpart K, Ka and Kb do not apply to this source. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

In-house PERMIT TO OPERATE

PERMIT NO: S-1135-346-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: nw21 **TOWNSHIP:** 31s **RANGE:** 22e

EQUIPMENT DESCRIPTION:
1,200 BBL FREE WATER KNOCK OUT (FWKO) #1 CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

CONDITIONS

1. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
2. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
3. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
4. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
5. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall retain records of TVP and API gravity testing for District inspection upon request. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

THIS IS AN INTERNAL DISTRICT DOCUMENT ONLY. Forward a copy to the Compliance Division and file the original in the premises files. A final Permit can only be issued upon verification of compliance with all applicable local, state, and federal regulations by the Compliance Division. Upon verification of compliance, a recommendation to issue the Permit to Operate will be forwarded to the Permit Services Division by the Compliance Division staff.

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

7. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 1070] Federally Enforceable Through Title V Permit
8. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 1070] Federally Enforceable Through Title V Permit
9. An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 1070] Federally Enforceable Through Title V Permit
10. Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 1070] Federally Enforceable Through Title V Permit
11. Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 1070] Federally Enforceable Through Title V Permit
12. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 1070] Federally Enforceable Through Title V Permit
13. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 1070] Federally Enforceable Through Title V Permit
14. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

In-house PERMIT TO OPERATE

PERMIT NO: S-1135-347-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: nw21 **TOWNSHIP:** 31s **RANGE:** 22e

EQUIPMENT DESCRIPTION:
1000 BBL FLOW SPLITTER VESSEL CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

CONDITIONS

1. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
2. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
3. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
4. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
5. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall retain records of TVP and API gravity testing for District inspection upon request. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

THIS IS AN INTERNAL DISTRICT DOCUMENT ONLY. Forward a copy to the Compliance Division and file the original in the premises files. A final Permit can only be issued upon verification of compliance with all applicable local, state, and federal regulations by the Compliance Division. Upon verification of compliance, a recommendation to issue the Permit to Operate will be forwarded to the Permit Services Division by the Compliance Division staff.

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

7. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 1070] Federally Enforceable Through Title V Permit
8. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 1070] Federally Enforceable Through Title V Permit
9. An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 1070] Federally Enforceable Through Title V Permit
10. Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 1070] Federally Enforceable Through Title V Permit
11. Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 1070] Federally Enforceable Through Title V Permit
12. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 1070] Federally Enforceable Through Title V Permit
13. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 1070] Federally Enforceable Through Title V Permit
14. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

In-house PERMIT TO OPERATE

PERMIT NO: S-1135-348-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: nw21 **TOWNSHIP:** 31s **RANGE:** 22e

EQUIPMENT DESCRIPTION:
700 BBL FLOW GAS BUSTER VESSEL CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

CONDITIONS

1. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
2. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
3. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
4. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
5. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall retain records of TVP and API gravity testing for District inspection upon request. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

THIS IS AN INTERNAL DISTRICT DOCUMENT ONLY. Forward a copy to the Compliance Division and file the original in the premises files. A final Permit can only be issued upon verification of compliance with all applicable local, state, and federal regulations by the Compliance Division. Upon verification of compliance, a recommendation to issue the Permit to Operate will be forwarded to the Permit Services Division by the Compliance Division staff.

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

7. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 1070] Federally Enforceable Through Title V Permit
8. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 1070] Federally Enforceable Through Title V Permit
9. An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 1070] Federally Enforceable Through Title V Permit
10. Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 1070] Federally Enforceable Through Title V Permit
11. Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 1070] Federally Enforceable Through Title V Permit
12. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 1070] Federally Enforceable Through Title V Permit
13. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 1070] Federally Enforceable Through Title V Permit
14. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

In-house PERMIT TO OPERATE

PERMIT NO: S-1135-349-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: nw21 **TOWNSHIP:** 31s **RANGE:** 22e

EQUIPMENT DESCRIPTION:
1000 BBL TREATER VESSEL #1 CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

CONDITIONS

1. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
2. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
3. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
4. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
5. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall retain records of TVP and API gravity testing for District inspection upon request. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

THIS IS AN INTERNAL DISTRICT DOCUMENT ONLY. Forward a copy to the Compliance Division and file the original in the premises files. A final Permit can only be issued upon verification of compliance with all applicable local, state, and federal regulations by the Compliance Division. Upon verification of compliance, a recommendation to issue the Permit to Operate will be forwarded to the Permit Services Division by the Compliance Division staff.

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

7. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 1070] Federally Enforceable Through Title V Permit
8. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 1070] Federally Enforceable Through Title V Permit
9. An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 1070] Federally Enforceable Through Title V Permit
10. Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 1070] Federally Enforceable Through Title V Permit
11. Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 1070] Federally Enforceable Through Title V Permit
12. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 1070] Federally Enforceable Through Title V Permit
13. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 1070] Federally Enforceable Through Title V Permit
14. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

In-house PERMIT TO OPERATE

PERMIT NO: S-1135-350-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: ne21 **TOWNSHIP:** 31s **RANGE:** 22e

EQUIPMENT DESCRIPTION:
1000 BBL TREATER VESSEL #2 CONNECTED TO VAPOR RECOVERY SYSTEM CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

CONDITIONS

1. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
2. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
3. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
4. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
5. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall retain records of TVP and API gravity testing for District inspection upon request. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

THIS IS AN INTERNAL DISTRICT DOCUMENT ONLY. Forward a copy to the Compliance Division and file the original in the premises files. A final Permit can only be issued upon verification of compliance with all applicable local, state, and federal regulations by the Compliance Division. Upon verification of compliance, a recommendation to issue the Permit to Operate will be forwarded to the Permit Services Division by the Compliance Division staff.

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

7. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 1070] Federally Enforceable Through Title V Permit
8. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 1070] Federally Enforceable Through Title V Permit
9. An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 1070] Federally Enforceable Through Title V Permit
10. Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 1070] Federally Enforceable Through Title V Permit
11. Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 1070] Federally Enforceable Through Title V Permit
12. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 1070] Federally Enforceable Through Title V Permit
13. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 1070] Federally Enforceable Through Title V Permit
14. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

In-house PERMIT TO OPERATE

PERMIT NO: S-1135-351-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: nw21 **TOWNSHIP:** 31s **RANGE:** 22e

EQUIPMENT DESCRIPTION:
1000 BBL TREATER VESSEL #3 CONNECTED TO VAPOR RECOVERY SYSTEM CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

CONDITIONS

1. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
2. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
3. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
4. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
5. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall retain records of TVP and API gravity testing for District inspection upon request. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

THIS IS AN INTERNAL DISTRICT DOCUMENT ONLY. Forward a copy to the Compliance Division and file the original in the premises files. A final Permit can only be issued upon verification of compliance with all applicable local, state, and federal regulations by the Compliance Division. Upon verification of compliance, a recommendation to issue the Permit to Operate will be forwarded to the Permit Services Division by the Compliance Division staff.

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

7. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 1070] Federally Enforceable Through Title V Permit
8. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 1070] Federally Enforceable Through Title V Permit
9. An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 1070] Federally Enforceable Through Title V Permit
10. Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 1070] Federally Enforceable Through Title V Permit
11. Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 1070] Federally Enforceable Through Title V Permit
12. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 1070] Federally Enforceable Through Title V Permit
13. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 1070] Federally Enforceable Through Title V Permit
14. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

In-house PERMIT TO OPERATE

PERMIT NO: S-1135-353-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

SECTION: nw21 **TOWNSHIP:** 31s **RANGE:** 22e

EQUIPMENT DESCRIPTION:
1000 BBL TREATER VESSEL #5 CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

CONDITIONS

1. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
2. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
3. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
4. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
5. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall retain records of TVP and API gravity testing for District inspection upon request. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

THIS IS AN INTERNAL DISTRICT DOCUMENT ONLY. Forward a copy to the Compliance Division and file the original in the premises files. A final Permit can only be issued upon verification of compliance with all applicable local, state, and federal regulations by the Compliance Division. Upon verification of compliance, a recommendation to issue the Permit to Operate will be forwarded to the Permit Services Division by the Compliance Division staff.

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

7. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 1070] Federally Enforceable Through Title V Permit
8. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 1070] Federally Enforceable Through Title V Permit
9. An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 1070] Federally Enforceable Through Title V Permit
10. Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 1070] Federally Enforceable Through Title V Permit
11. Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 1070] Federally Enforceable Through Title V Permit
12. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 1070] Federally Enforceable Through Title V Permit
13. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 1070] Federally Enforceable Through Title V Permit
14. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

In-house PERMIT TO OPERATE

PERMIT NO: S-1135-354-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:
1,000 BBL TREATER VESSEL #6 CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

CONDITIONS

1. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
2. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
3. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
4. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
5. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall retain records of TVP and API gravity testing for District inspection upon request. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

THIS IS AN INTERNAL DISTRICT DOCUMENT ONLY. Forward a copy to the Compliance Division and file the original in the premises files. A final Permit can only be issued upon verification of compliance with all applicable local, state, and federal regulations by the Compliance Division. Upon verification of compliance, a recommendation to issue the Permit to Operate will be forwarded to the Permit Services Division by the Compliance Division staff.

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

7. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 1070] Federally Enforceable Through Title V Permit
8. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 1070] Federally Enforceable Through Title V Permit
9. An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 1070] Federally Enforceable Through Title V Permit
10. Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 1070] Federally Enforceable Through Title V Permit
11. Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 1070] Federally Enforceable Through Title V Permit
12. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 1070] Federally Enforceable Through Title V Permit
13. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 1070] Federally Enforceable Through Title V Permit
14. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

In-house PERMIT TO OPERATE

PERMIT NO: S-1135-355-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:
1,000 BBL TREATER VESSEL #7 CONNECTED TO VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

CONDITIONS

1. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
2. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
3. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
4. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
5. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall retain records of TVP and API gravity testing for District inspection upon request. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

THIS IS AN INTERNAL DISTRICT DOCUMENT ONLY. Forward a copy to the Compliance Division and file the original in the premises files. A final Permit can only be issued upon verification of compliance with all applicable local, state, and federal regulations by the Compliance Division. Upon verification of compliance, a recommendation to issue the Permit to Operate will be forwarded to the Permit Services Division by the Compliance Division staff.

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

7. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 1070] Federally Enforceable Through Title V Permit
8. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 1070] Federally Enforceable Through Title V Permit
9. An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 1070] Federally Enforceable Through Title V Permit
10. Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 1070] Federally Enforceable Through Title V Permit
11. Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 1070] Federally Enforceable Through Title V Permit
12. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 1070] Federally Enforceable Through Title V Permit
13. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 1070] Federally Enforceable Through Title V Permit
14. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

7. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 1070] Federally Enforceable Through Title V Permit
8. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 1070] Federally Enforceable Through Title V Permit
9. An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 1070] Federally Enforceable Through Title V Permit
10. Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 1070] Federally Enforceable Through Title V Permit
11. Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 1070] Federally Enforceable Through Title V Permit
12. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 1070] Federally Enforceable Through Title V Permit
13. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 1070] Federally Enforceable Through Title V Permit
14. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

In-house PERMIT TO OPERATE

PERMIT NO: S-1135-356-0 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: PO BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
MIDWAY-SUNSET
KERN COUNTY, CA

EQUIPMENT DESCRIPTION:
1,000 BBL TREATER VESSEL #8 CONNECTED TO THE VAPOR CONTROL SYSTEMS LISTED ON S-1135-129 AND/OR '-149 (ANDERSON-GOODWIN)

CONDITIONS

1. This tank shall only store, place, or hold organic liquid with a true vapor pressure (TVP) of less than 0.5 psia under all storage conditions. [District Rule 4623] Federally Enforceable Through Title V Permit
2. Permittee shall conduct true vapor pressure (TVP) testing of the organic liquid stored in this tank at least once every 24 months during summer (July - September), and/or whenever there is a change in the source or type of organic liquid stored in this tank in order to maintain exemption from the rule. [District Rule 4623] Federally Enforceable Through Title V Permit
3. The TVP testing shall be conducted at actual storage temperature of the organic liquid in the tank. The permittee shall also conduct an API gravity testing. [District Rule 4623] Federally Enforceable Through Title V Permit
4. For crude oil with an API gravity of 26 degrees or less, the TVP shall be determined using the latest version of the Lawrence Berkeley National Laboratory "test Method for Vapor pressure of Reactive Organic Compounds in Heavy Crude Oil Using Gas Chromatograph", as approved by ARB and EPA. [District Rule 4623] Federally Enforceable Through Title V Permit
5. The API gravity of crude oil or petroleum distillate shall be determined by using ASTM Method D 287 e1 "Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method). Sampling for API gravity shall be performed in accordance with ASTM Method D 4057 "Standard Practices for Manual Sampling of Petroleum and Petroleum Products." [District Rule 4623] Federally Enforceable Through Title V Permit
6. Permittee shall retain records of TVP and API gravity testing for District inspection upon request. The records shall include the tank identification number, Permit to Operate number, type of stored organic liquid, TVP and API gravity of the organic liquid, test methods used, and a copy of the test results. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

THIS IS AN INTERNAL DISTRICT DOCUMENT ONLY. Forward a copy to the Compliance Division and file the original in the premises files. A final Permit can only be issued upon verification of compliance with all applicable local, state, and federal regulations by the Compliance Division. Upon verification of compliance, a recommendation to issue the Permit to Operate will be forwarded to the Permit Services Division by the Compliance Division staff.

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308 • (661) 392-5500 • Fax (661) 392-5585

7. All piping, fittings, and valves shall be inspected annually by the facility operator in accordance with EPA Method 21, with the instrument calibrated with methane, to ensure compliance with the provisions of this permit. If any of the tank components are found to leak during an annual inspection, the inspection frequency for that component type shall be changed from annual to quarterly. If no tank components are subsequently found to be leaking during five consecutive inspections, the inspection frequency may be changed from quarterly to annual. Components located in inaccessible (over 15 feet above ground when access is required from the ground or over 6 feet away from a platform when access is required from the platform) locations shall be inspected at least annually and components located in unsafe areas shall be inspected and repaired at the next process unit turnaround (the scheduled shutdown of a unit for maintenance and repair work). [District Rule 1070] Federally Enforceable Through Title V Permit

8. A facility operator, upon detection of a leaking component, shall affix to that component a weatherproof readily visible tag bearing the date on which the leak is detected. The tag shall remain in place until the leaking component is repaired, reinspected and found to be in compliance with the requirements of this rule. [District Rule 1070] Federally Enforceable Through Title V Permit

9. An operator shall reinspect a component for leaks within thirty working days after the date on which the component is repaired. [District Rule 1070] Federally Enforceable Through Title V Permit

10. Emissions from components which have been tagged by the facility operator for repair within 15 calendar days or which have been repaired and are awaiting re-inspection shall not be in violation of this permit. [District Rule 1070] Federally Enforceable Through Title V Permit

11. Any component leak shall be repaired to a leak-free condition or vented to a flare satisfying the requirements of 40 CFR 60.18 or to a vapor control device that is at least 99 percent efficient as measured by EPA Method 18 within fifteen (15) calendar days of detection. The APCO may grant a ten (10) calendar day extension provided the operator demonstrates that necessary and sufficient actions are being taken to correct the leak within this time period. Any vapor control device, other than a flare, used to comply with this condition shall demonstrate at least 99% control efficiency as measured by EPA Method 18 at least annually. [District Rule 1070] Federally Enforceable Through Title V Permit

12. If the leaking component is an essential part of a critical process unit which cannot be immediately shut down for repairs, the operator shall 1) Minimize the leak within 15 calendar days; and 2) If the leak which has been minimized still exceeds the concentration allowed by this permit, the essential component shall be repaired to eliminate the leak during the next process unit turnaround, but in no case later than one year from the date of the original leak detection. A critical process unit is any process unit which would result in the automatic shutdown of other process units if it were shut down. [District Rule 1070] Federally Enforceable Through Title V Permit

13. Operator shall maintain an inspection log containing the following 1) Type of component leaking; 2) Date of leak detection, and method of detection; 3) Date and emission level of recheck after leak is repaired; 4) Identification and location of essential parts of critical process units found leaking that cannot be repaired until the next process unit turnaround; and 5) Method used to minimize the leak from essential parts of critical process units which cannot be repaired until the next process unit turnaround. [District Rule 1070] Federally Enforceable Through Title V Permit

14. All records shall be maintained and retained on-site for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit